3 January 1973

MEMORANDUM FOR THE RECORD

SUBJECT: New Methodologies for Enhancing the Production
          of Finished Intelligence

1. Objective: Establishment of a pilot R&D program
to explore the application of systems analysis in the pro-
duction of finished intelligence (i.e., estimates). In this
context the system approach would be used to aid or enhance
the intuitive thoughts of intelligence analysts and/or
estimators in the production of finished intelligence.

2. Tentative advantages:

   a. Introduce probability analysis and quantified
"expert" opinion (i.e., Delphi-like approach)
into estimating procedure. Improve overall
quality of finished intelligence.

   b. Present estimate in the form of a model in
which the key variables (i.e., economic,
political, S&T, military, cultural, etc.)
would be interrelated (and interdependent)
through feedback loops--as those variables
are in the Forrester/Meadows world models.

   c. Future estimates (10 to 15 years) in graphic
format following Forrester/Meadows format.

   d. Ability to change model variables and observe
effects of change on other variables. Near
real-time on a terminal. Numerous interactions
before final estimate agreed upon.

   e. Reduction in time necessary for responding to
consumer request for estimates.

3. Pilot study proposal.

   a. Six-month R&D effort (about 80 K $) to produce:

(1) modeling methodology (Forrester/Meadows computerized program adapted to intelligence needs plus improvements) and (2) a "new format estimate."

b. Procedure: A recently produced estimate (relatively narrow in scope) would be obtained and used as a starting point. The proposed six-month study would develop a "new format estimate" on the same subject but without utilizing the existing estimate. A comparative study could then be made between the "new format estimate" and the "old format estimate."

c. First two months: Development of programs using Forrester/Meadows basic methodology with improvements. Test model sensitivity with "country X" data (a fictitious country).

d. Second two months: Collect data using Delphi-like interview approach from intelligence experts (about 20 persons) on subject of estimate.

e. Third two months: Input data into model, qualify the program, test, analyze the output to identify which of the future events seem likely to be most important to the future states of the country (or subject) and the nature of their effects, produce "new format estimate."

4. It is recommended that the major portion of this study be done through an external contractor. The study should be monitored by a team composed of representatives from ORD, ONE, IC/DCI, and select production offices (dependent upon subject of finished intelligence).

5. One possible contractor for this task is [ ]   **25X1B**
[   ] Inc., who is quite familiar with the Forrester/Meadows methodology, cross impact matrix techniques, Delphi procedures and other methodologies encompassed by the systems approach.

25X1A

DCI/IC/SAS

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